## IN THE CLAIMS

Please amend the claims as follows:

- 1. (original) A method of providing threshold crossing timing recovery in an optical system, which optical system is adapted to read data signal samples  $(y_s)$  from an optical disc, said method comprising the steps of:
- reading data signal samples  $(y_s)$  at a sampling time  $(t_s)$  from the optical disc by means of the optical system,
- feeding the read data signal samples  $(y_s)$  to a timing recovery means (100) comprising a timing error detection means (20),
- determining timing error information  $(\psi_{\text{m}})$  by means of the timing error detection means (20),
- adjusting the sampling time  $(t_s)$  towards synchronous timing instants  $(t_k)$  on the basis of the timing error information  $(\psi_k)$ , characterized in that an eye pattern of the data signal samples  $(y_s)$  is used in the step of determining timing error information  $(\psi_k)$ , and that the timing error detection means (20) is adapted to extract timing error information  $(\psi_k)$  at the position of a secondary eye in the eye pattern.

- 2. (original) A method according to claim 1, characterized in that the timing recovery means uses threshold crossing timing recovery.
- 3. (original) A method according to claim 2, characterized in that the threshold crossing timing recovery is zero crossing timing recovery.
- 4. (currently amended) A method according to any of the claims 1 to 3claim 1, characterized in that the timing error information  $(\psi_m)$  around a threshold crossing between the instants mT and (m+1)T is calculated as:

$$\psi_m = \frac{y_m - x}{y_m - y_{m+1}} - \alpha T ,$$

where T is the data sample period,  $y_m$  and  $y_{m+1}$ , respectively, is the data signal sample at the instants mT and (m+1)T, respectively,  $\alpha$  is a phase shift constant lying in the interval  $0 \le \alpha < 1$ , and x is a displacement of the threshold.

5. (currently amended) A method according to any of the claims 1 to 3claim 1, characterized in that the timing error information

 $(\psi_m)$  around a threshold crossing between the instants mT and (m+1)T is calculated as:

$$\psi_m = \frac{y_m - x'}{y_m - y_{m+1}} - \beta T ,$$

where T is the data sample period,  $y_m$  and  $y_{m+1}$ , respectively, is the data signal sample at the instants mT and (m+1)T, respectively,  $\beta$  is a phase shift constant lying in the interval  $0 \le \beta < 1$ , and x' is a displacement of the threshold.

- 6. (currently amended) A system for performing the method according to elaims 1 to 5claim 1.
- 7. (currently amended) An apparatus for writing bit patterns on an optical disc to be read in by use of method according to  $\frac{1 + 1}{2}$  to  $\frac{1}{2}$  to  $\frac{1}{$
- 8. (currently amended) A disc whereon bit patterns are written to be read by use of the method according to  $\frac{1}{2}$  to  $\frac{5}{2}$  claim 1.